In the Claims:

This listing of claims replaces all prior versions and listing of claims in the application.

1. (Currently Amended) A method for patching read only memory (ROM) instructions in an electronic system comprising a first non-volatile memory portion storing instruction groups defining patching functionalities, an extended memory portion storing extended instructions, and an additional memory portion, the method comprising:

checking a flag stored in the additional memory portion, the flag indicating a need for executing the extended instructions in the extended memory portion; and

alternating processing of the ROM instructions in the first non-volatile memory portion and the extended instructions in the extended memory portion based upon the flag;

the flag representing binary information associated to a subroutine to indicate whether the subroutine is in one of a free state and a busy state, the subroutine using ~~that uses~~ a patching mechanism ~~residing at least initially in the first non-volatile memory and~~ defined by the ROM instructions, with each patching mechanism having a respective flag associated therewith.

2. (Original) A method according to Claim 1 wherein the electronic device comprises a processor.

3. (Original) A method according to Claim 1 wherein the first non-volatile memory portion comprises a read only memory.

4. (Original) A method according to Claim 1 wherein the instruction groups comprise at least one of subroutines and software modules.

5. (Original) A method according to Claim 1 wherein the additional memory portion comprises a volatile memory.

6. (Original) A method according to Claim 5 wherein the volatile memory comprises a RAM.

7. (Original) A method according to Claim 1 wherein the additional memory portion comprises a non-volatile memory.

8. (Original) A method according to Claim 7 wherein the non-volatile memory providing the additional memory portion comprises at least one of an EPROM, an EEPROM and a FLASH memory.

9. (Original) A method according to Claim 1 wherein the flag indicates whether the instructions in the first non-volatile memory portion or the instructions in the extended memory portion are to be executed.

10. (Original) A method according to Claim 1 wherein

the ROM instructions in the first non-volatile memory portion define a calling ROM based subroutine; and wherein the extended instructions in the extended memory portion reuses the calling ROM based subroutine without resulting in recursive actions.

11. (Original) A method according to Claim 1 wherein the ROM instructions in the first non-volatile memory portion define a calling ROM based subroutine; and wherein the calling ROM based subroutine is executed during execution of the extended instructions in the extended memory portion.

12. (Original) A method according to Claim 1 wherein the ROM instructions in the first non-volatile memory portion define a calling ROM based subroutine; and wherein the extended instructions include integrative instructions completing actions of the calling ROM based subroutine.

Claims 13-14 (Cancelled).

15. (Original) A method according to Claim 1 wherein the first non-volatile memory portion comprises an electrically erasable and rewritable memory.

16. (Currently Amended) A method for patching ROM instructions in an electronic system comprising:

storing ROM instructions defining patching functionalities of the electronic system in a read only memory;

storing extended instructions with respect to the read only memory in an extended non-volatile memory;

storing flags in an additional memory for indicating a change in the ROM instructions or the extended instructions being executed; and

alternating processing of the ROM instructions in the read only memory and the extended instructions in the extended non-volatile memory based upon a logic value the flags;

the flags representing binary information associated to a subroutine to indicate whether the subroutine is in one of a free state and a busy state, the subroutine using ~~that use~~ a patching mechanism ~~residing at least initially in the first non-volatile memory and~~ defined by the ROM instructions, with each patching mechanism having a respective flag associated therewith.

17. (Original) A method according to Claim 16 wherein the additional memory comprises a volatile memory.

18. (Original) A method according to Claim 16 wherein the additional memory comprises a non-volatile memory.

19. (Original) A method according to Claim 16 wherein the flag indicates whether the ROM instructions in the read only memory or the extended instructions in the extended non-volatile memory are to be executed.

20. (Original) A method according to Claim 16 wherein

the ROM instructions in the read only memory define a calling ROM based subroutine; and wherein the extended instructions in the extended non-volatile memory reuses the calling ROM based subroutine without resulting in recursive actions.

21. (Original) A method according to Claim 16 wherein the ROM instructions in the read only memory define a calling ROM based subroutine; and wherein the calling ROM based subroutine is executed during execution of the extended instructions in the extended non-volatile memory.

22. (Original) A method according to Claim 16 wherein the ROM instructions in the read only memory define a calling ROM based subroutine; and wherein the extended instructions comprise integrative instructions completing actions of the calling ROM based subroutine.

Claims 23-24 (Cancelled).

25. (Currently Amended) An electronic system comprising:

a read only memory for storing ROM instructions defining patching functionalities of the electronic system;

an extended non-volatile memory for storing extended instructions with respect to said read only memory;

an additional memory for storing flags indicating a change in the instructions being executed; and

a processor connected to said read only memory, said extended non-volatile memory and said additional memory, said processor alternating processing of the ROM instructions in said read only memory and the extended instructions in said extended non-volatile memory based upon the flags;

the flag representing binary information associated to a subroutine to indicate whether the subroutine is in one of a free state and a busy state, the subroutine using ~~that uses~~ a patching mechanism ~~residing at least initially in the first non-volatile memory and~~ defined by the ROM instructions, with each patching mechanism having a respective flag associated therewith.

26. (Original) An electronic system according to Claim 25 wherein said additional memory comprises a volatile memory.

27. (Original) An electronic system according to Claim 25 wherein said additional memory comprises a non-volatile memory.

28. (Original) An electronic system according to Claim 25 wherein the flags indicates whether the ROM instructions in said read only memory or the extended instructions in said extended non-volatile memory are to be executed.

29. (Original) An electronic system according to Claim 25 wherein the ROM instructions in said read only memory define a calling ROM based subroutine; and wherein the extended

instructions in said extended non-volatile memory reuses the calling ROM based subroutine without resulting in recursive actions.

30. (Original) An electronic system according to Claim 25 wherein the ROM instructions in said read only memory define a calling ROM based subroutine; and wherein the calling ROM based subroutine is executed during execution of the extended instructions in said extended non-volatile memory.

31. (Original) An electronic system according to Claim 25 wherein the ROM instructions in said read only memory define a calling ROM based subroutine; and wherein the extended instructions comprise integrative instructions completing actions of the calling ROM based subroutine.

Claims 32-33 (Cancelled).